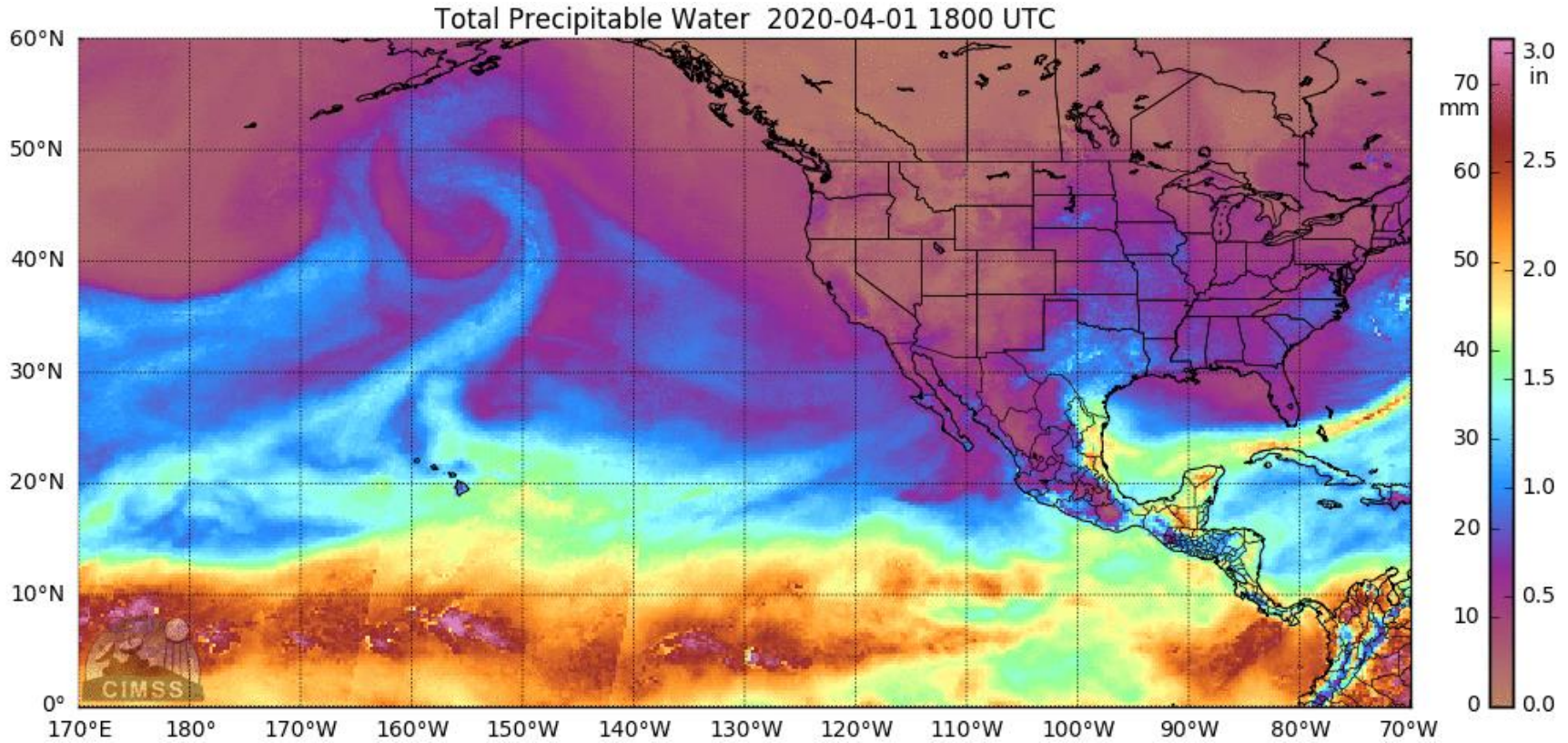
CW3E Post Event Summary: 4–7 April AR

Center for Western Weather and Water Extremes
SCRIPPS INSTITUTION OF OCEANOGRAPHY AT UC SAN DIEGO

A weak but seasonally anomalous atmospheric river brought precipitation to a large portion of California

- Numerous coastal locations experienced IVT magnitudes >250 kg m^{-1} s^{-1} for <24 hours during this event
- This is the third time since 2000 that San Diego has experienced IVT >250 kg m^{-1} s^{-1} during an AR in the first week of April
- Numerous high elevation locations across California received >2 feet of snow in association with this AR
- Lower elevations across much of the state have received 0.75 to 1.5 inches of liquid precipitation
- As the large-scale system begins to weaken and propagate inland, it is forecast to bring additional precipitation to portions of Southern California



4–7 April Atmospheric River

For California DWR's AR Program

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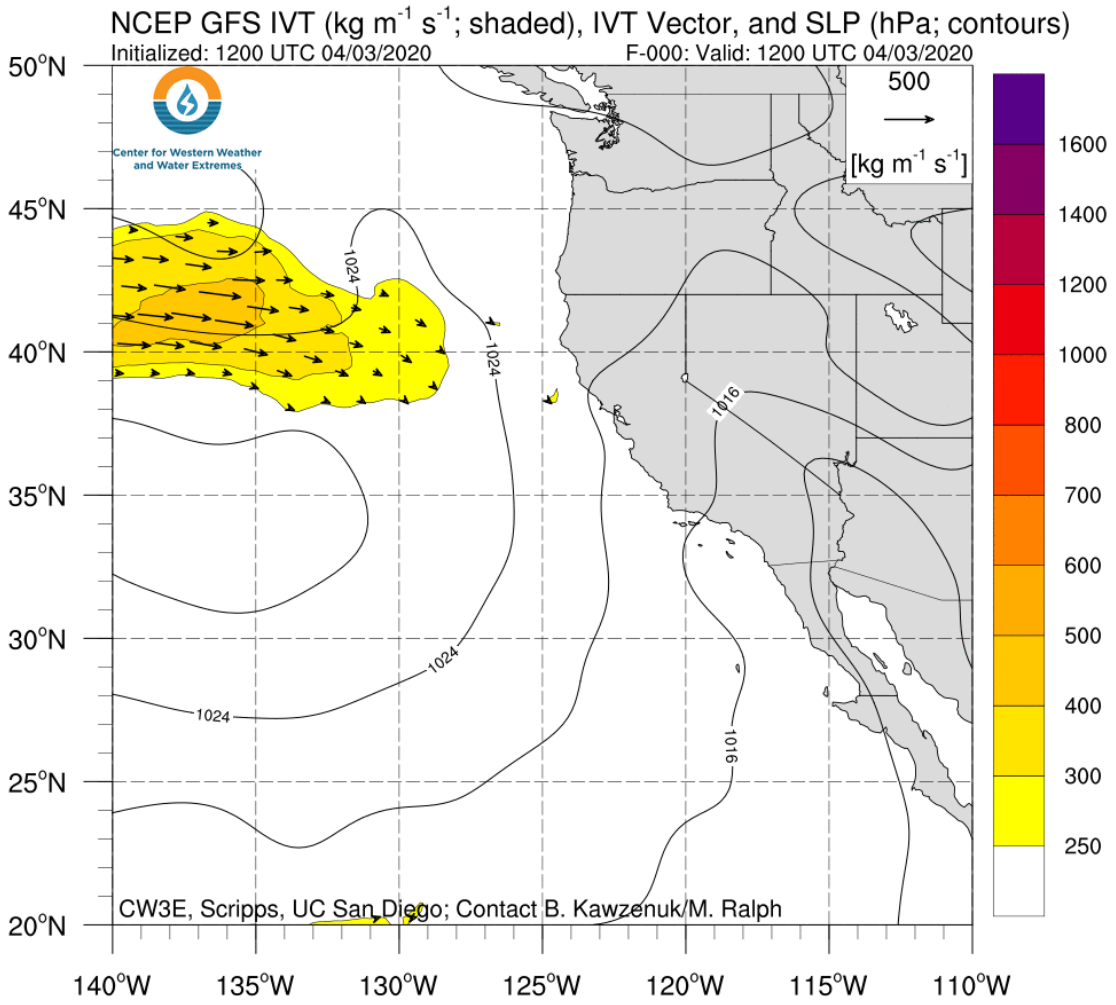

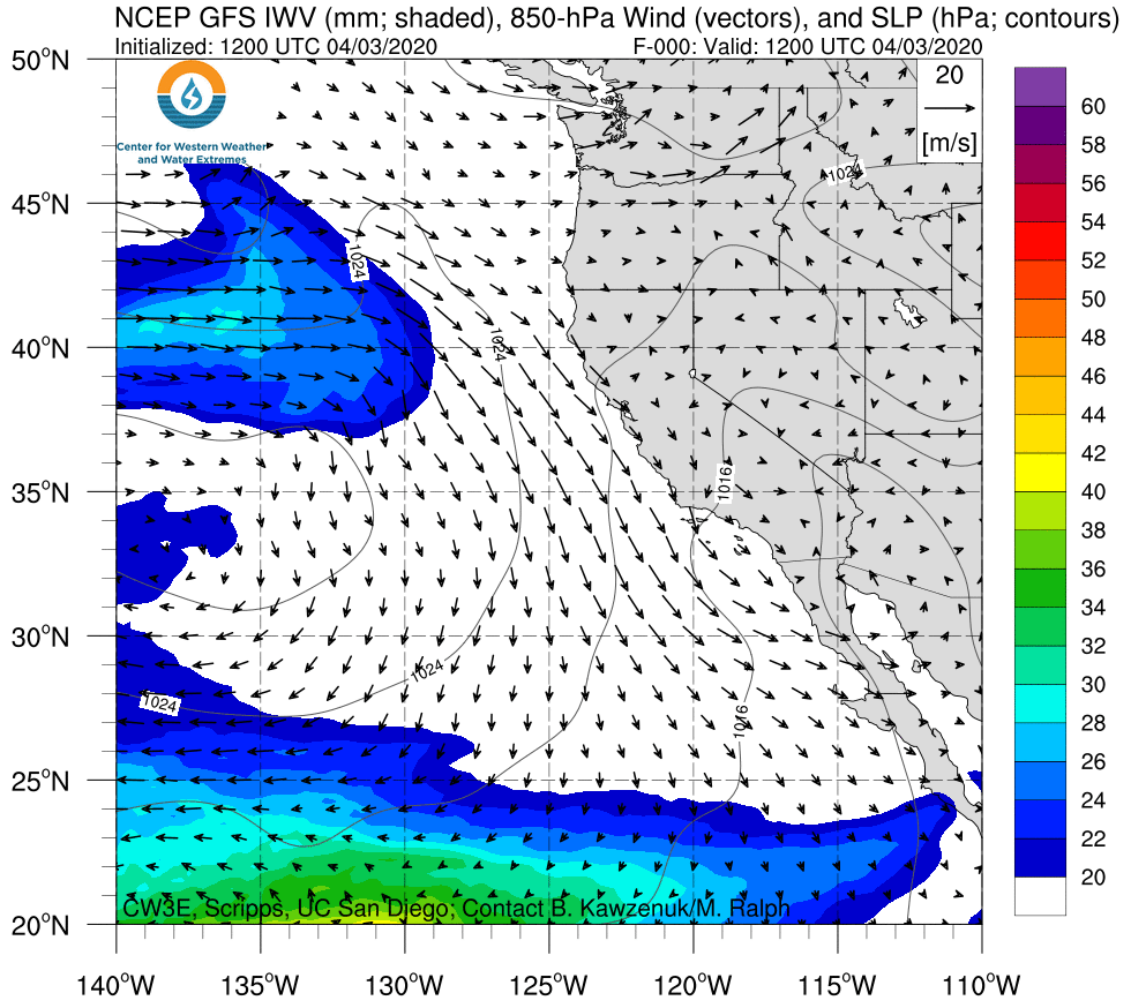

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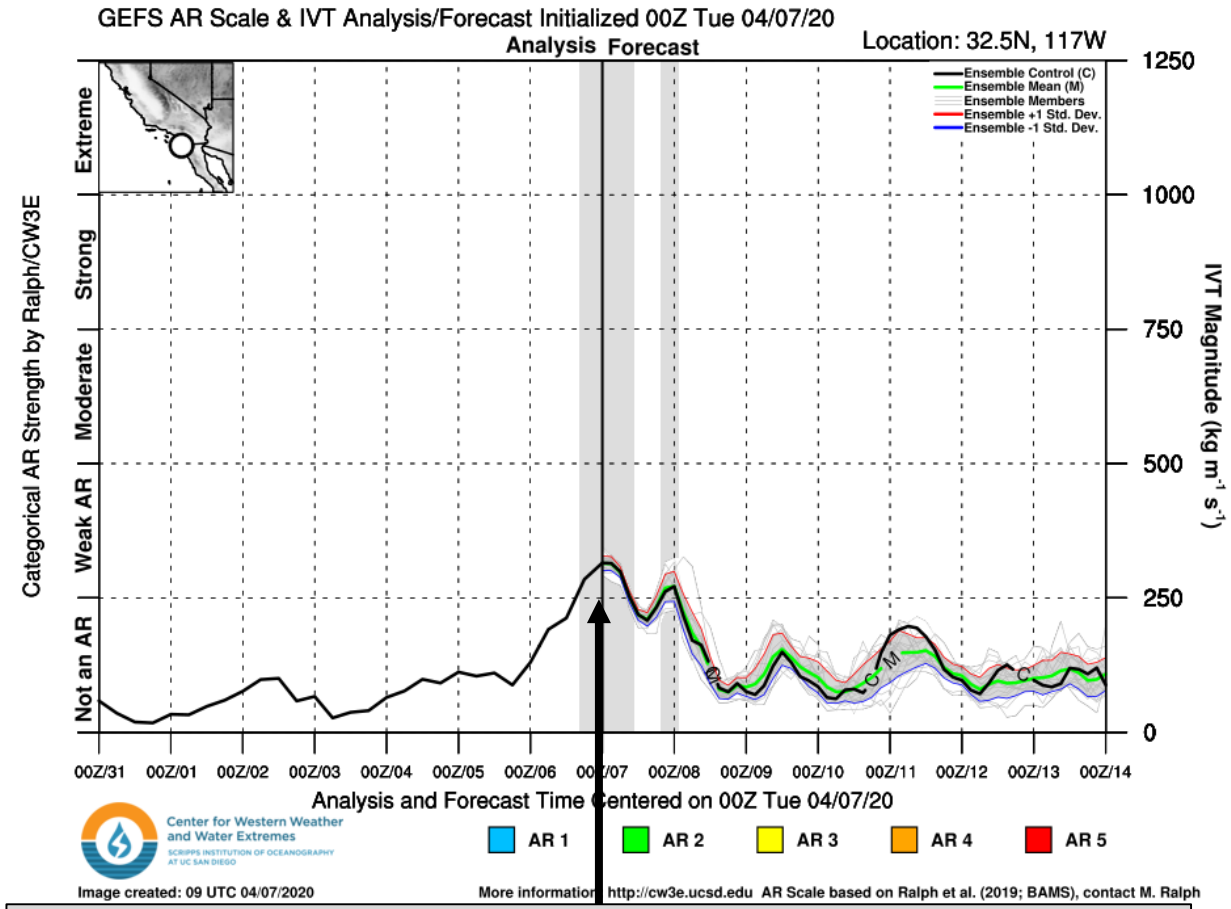

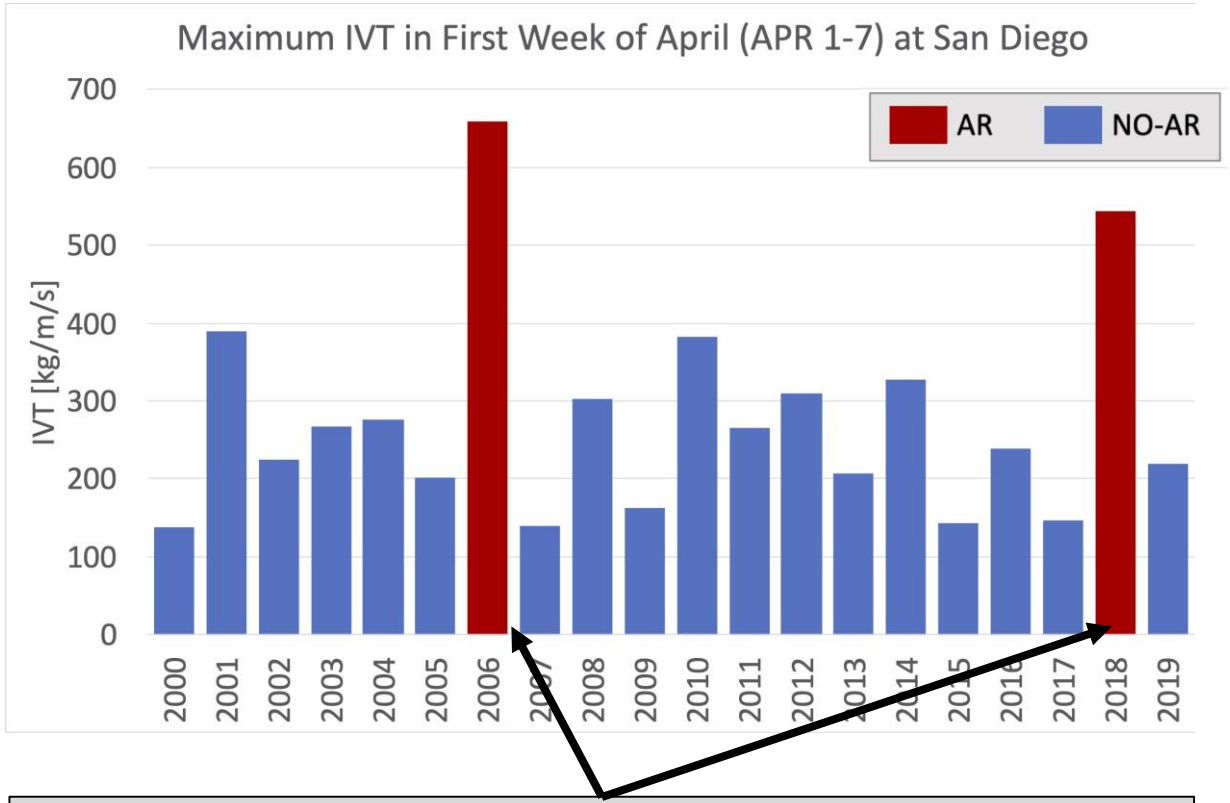

- **Coastal San Diego County experienced a maximum IVT magnitude of ~350 kg m^{-1} s^{-1} at ~00Z on 7 April**
- **A secondary peak of AR conditions (~250 kg m^{-1} s^{-1}) is forecast to impact San Diego County at ~00Z on 8 April**
- **Since IVT magnitudes dropped below 250 kg m^{-1} s^{-1} between the two pulses, AR conditions are not long enough to fall on the AR Scale (Ralph et al. 2019)**

Since 2000, San Diego has only experienced IVT magnitudes >250 kg m^{-1} s^{-1} in association with an AR during the first week of April two other times (2006 and 2018)

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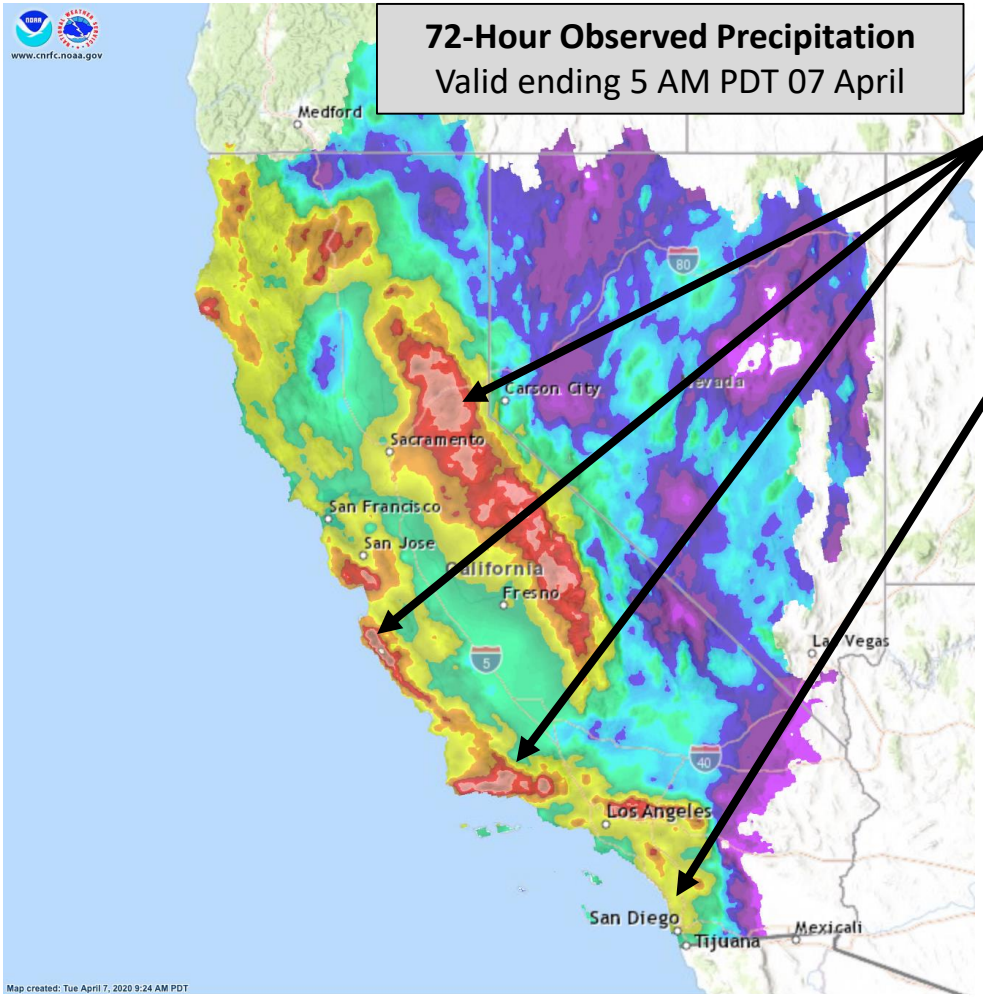
72-Hour Observed Precipitation
Valid ending 5 AM PDT 07 April



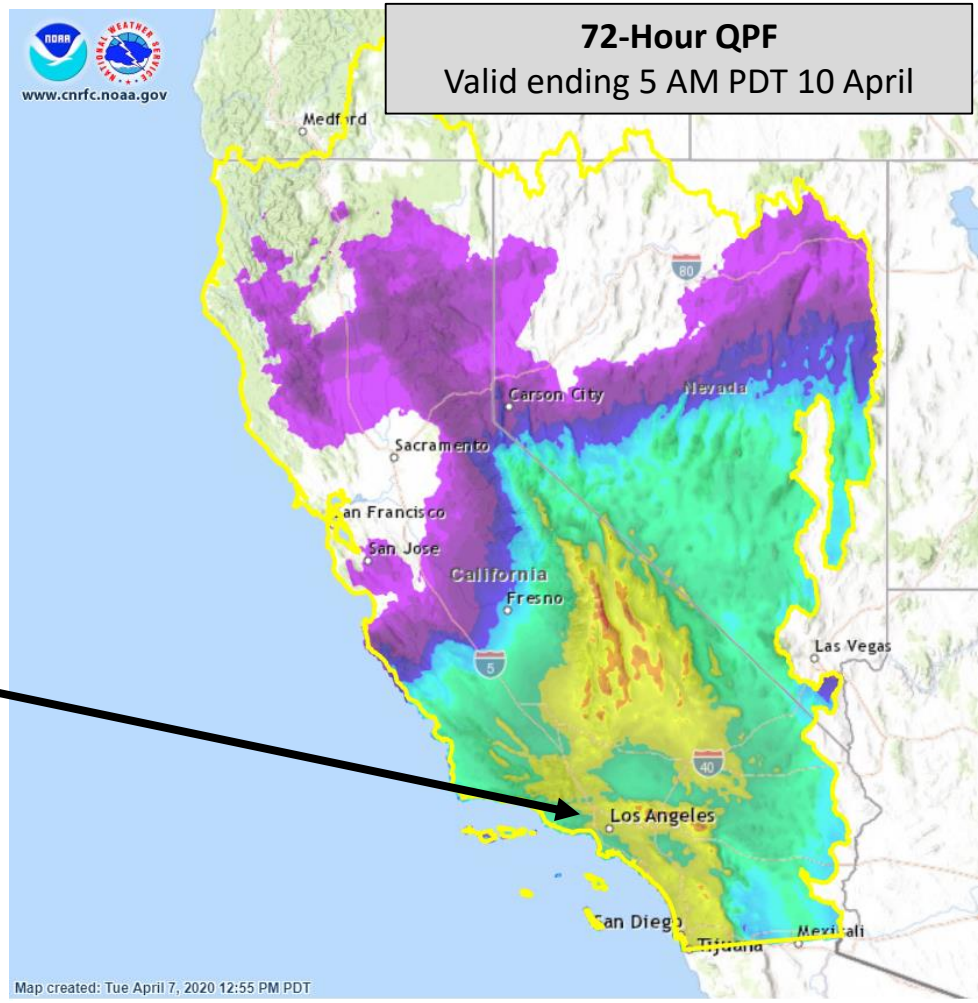
>4 inches of precipitation has fallen over several higher elevation locations of the Sierra Nevada, Coastal, and Transverse Mountains during the previous 72 hours

Other low elevation sites across California have received 0.75 to 1.5 inches

As this larger overall system continues to move inland over Southern California, an additional 0.5 to 2.5 inches of precipitation is forecast by the CNRFC to fall over portions of Central to Southern California

QPE and QPF Products from California-Nevada River Forecast Center. cnrfc.noaa.gov

72-Hour QPF
Valid ending 5 AM PDT 10 April



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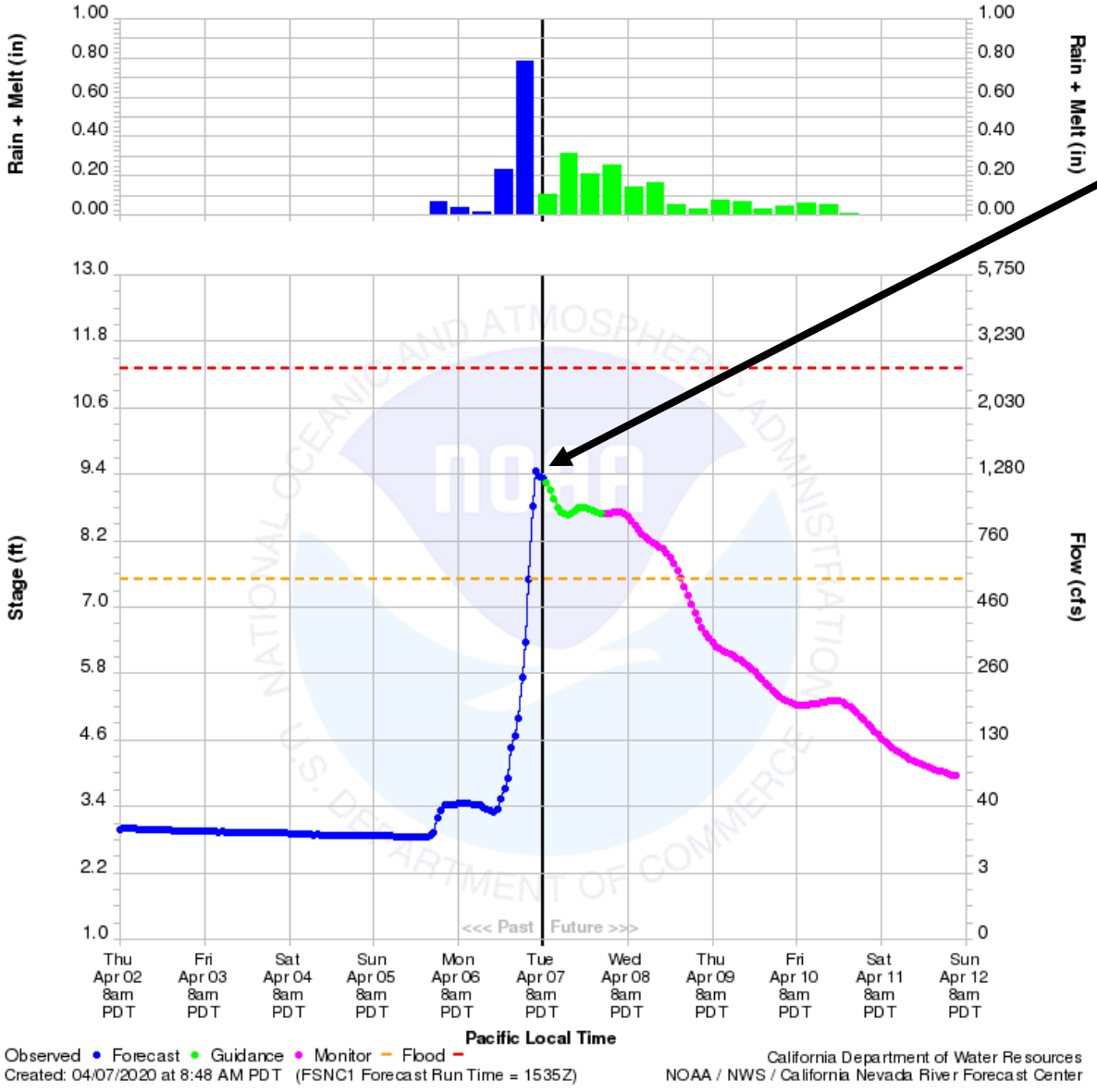
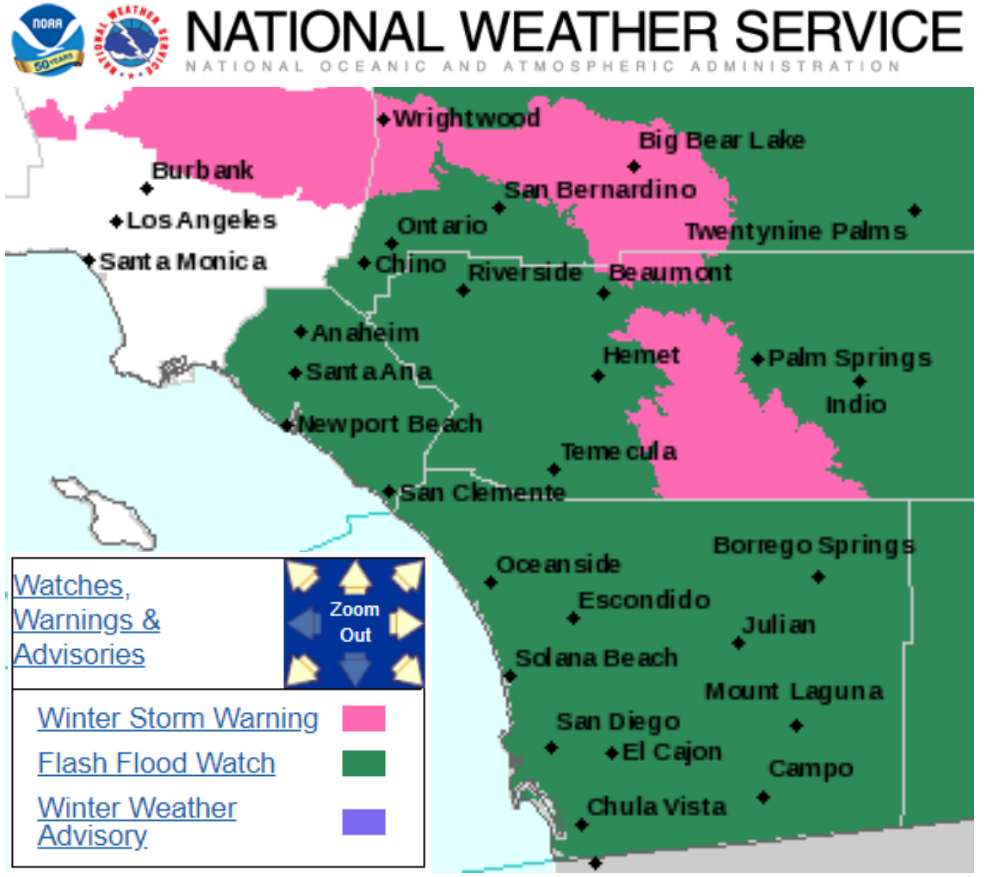


- **The San Diego River at Fashion Valley rose to 9.5 feet (above monitor stage) at 6 AM PDT on 7 April**
- **At a stage height of 8.8 feet Fashion Valley Road is closed due to impacts of the rising river**
- **A Flash flood watch and Winter Storm Warning are still in effect through tomorrow evening by the NWS San Diego Office**



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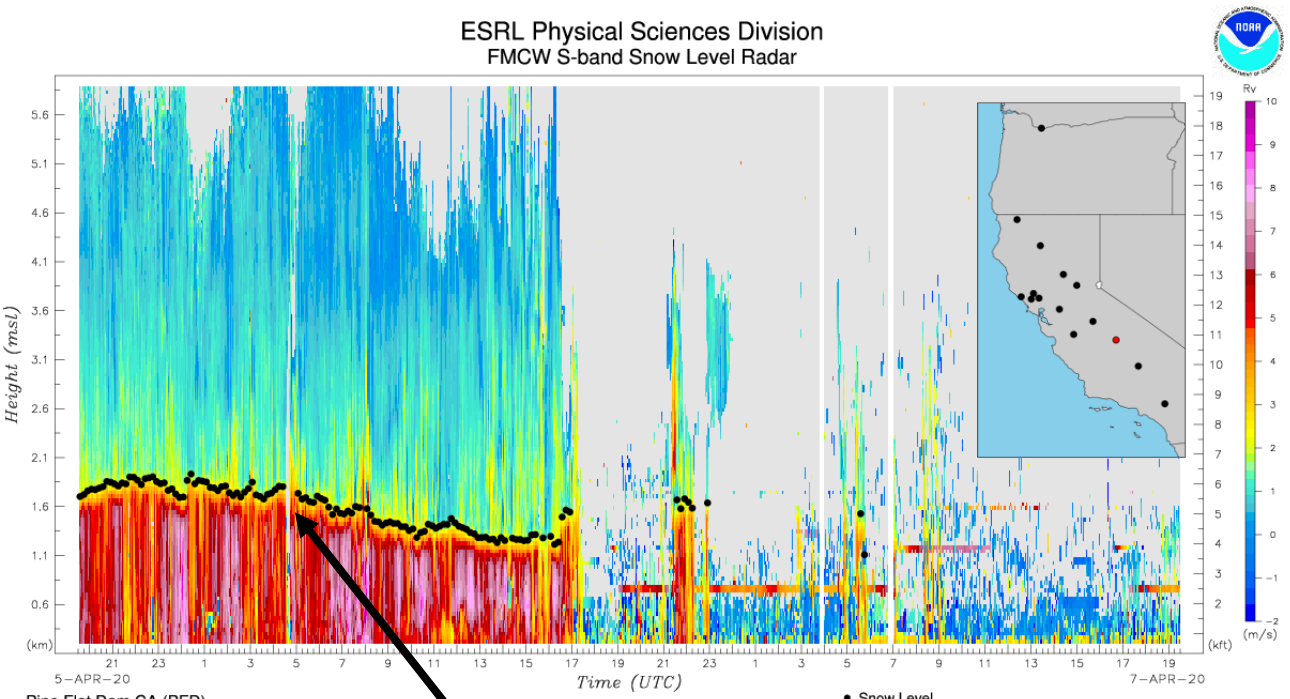
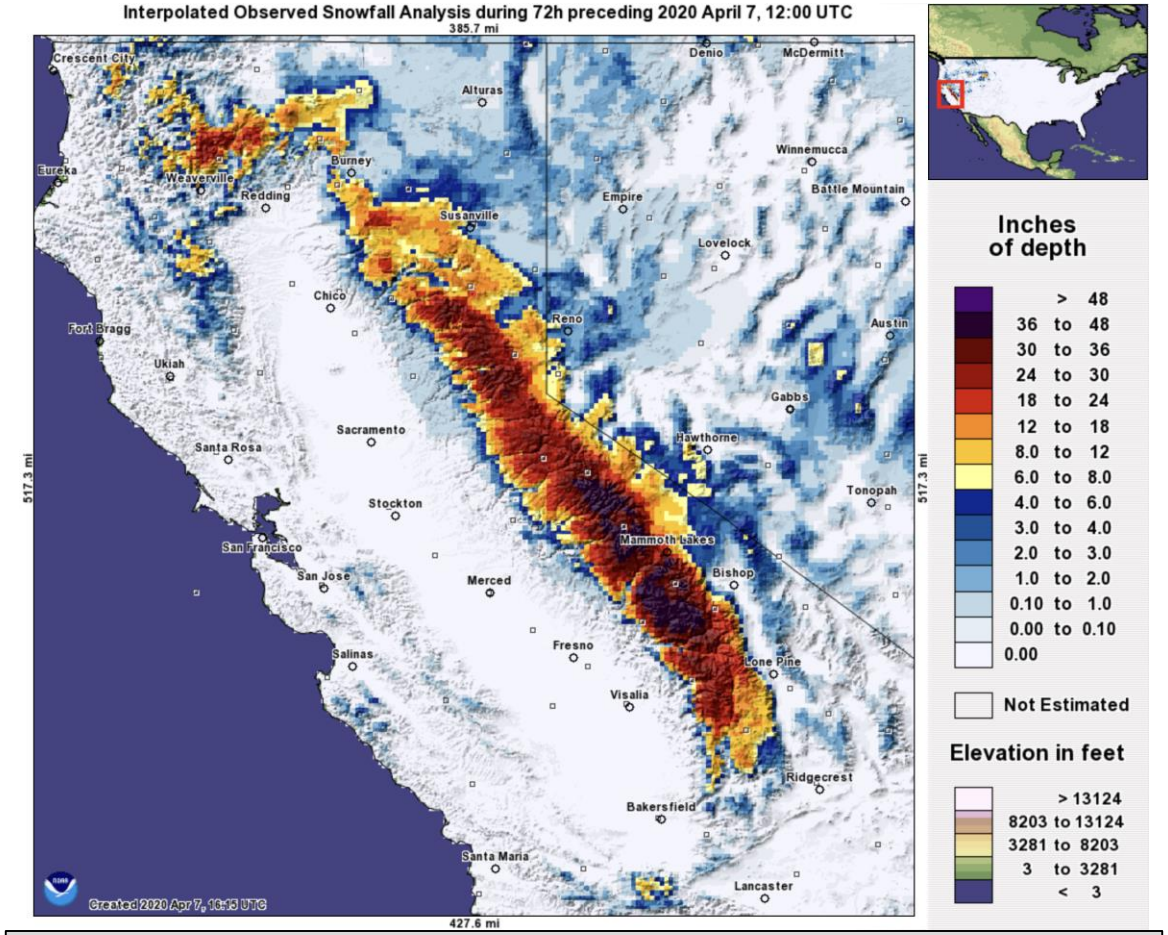


Pine Flat Dam,CA (PFD)
36.8301 N, 119.3324 W, 184 m

Time (UTC)	2000	2100	2200	2300	00 0	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
Snow Level (m)	1766	1836	1876	1848	1754	1841	1751	17	1754	1691	1656	1532	1578	1429	1363	1401	1408	1285	1267	1264	1258	1544	none	none
Snow Level (ft)	5792	6023	6154	6063	5754	6040	5744	5684	5754	5546	5433	5024	5175	4688	4472	4596	4618	4216	4155	4145	4127	5064	none	none
Sfc Temp (C)	12.57	12.45	12.59	12.93	12.05	11.98	11.49	11.30	11	10.80	10.41	10.78	9.32	8.24	8.64	7.50	7.99	8.19	8.22	8.39	9.13	9.51	11.74	13.11

Time (UTC)	2000	2100	2200	2300	00 0	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
Snow Level (m)	none	none	1644	1637	none	none	none	none	none	none	1317	none	none	none	none	none	none	none	none	none	none	none	none	none
Snow Level (ft)	none	none	5392	5369	none	none	none	none	none	none	4321	none	none	none	none	none	none	none	none	none	none	none	none	none
Sfc Temp (C)	14.97	15.94	12.41	14.21	14.19	14.92	14.05	11.78	11.48	11.94	11.37	11.26	11.26	11.11	9.90	9.41	8.85	8.15	7.58	8.04	10.80	12.96	13.97	14.82

The snow level radar at Pine Flat Dam in the foothills of the central Sierra Nevada indicated that snow levels were below 6,000 feet during the majority of this event



Due to the lower snow levels associated with this AR, a majority of the Sierra Nevada received >24 inches of snow during the previous 72 hours

Snowfall products from www.nohrsc.noaa.gov/nsa/

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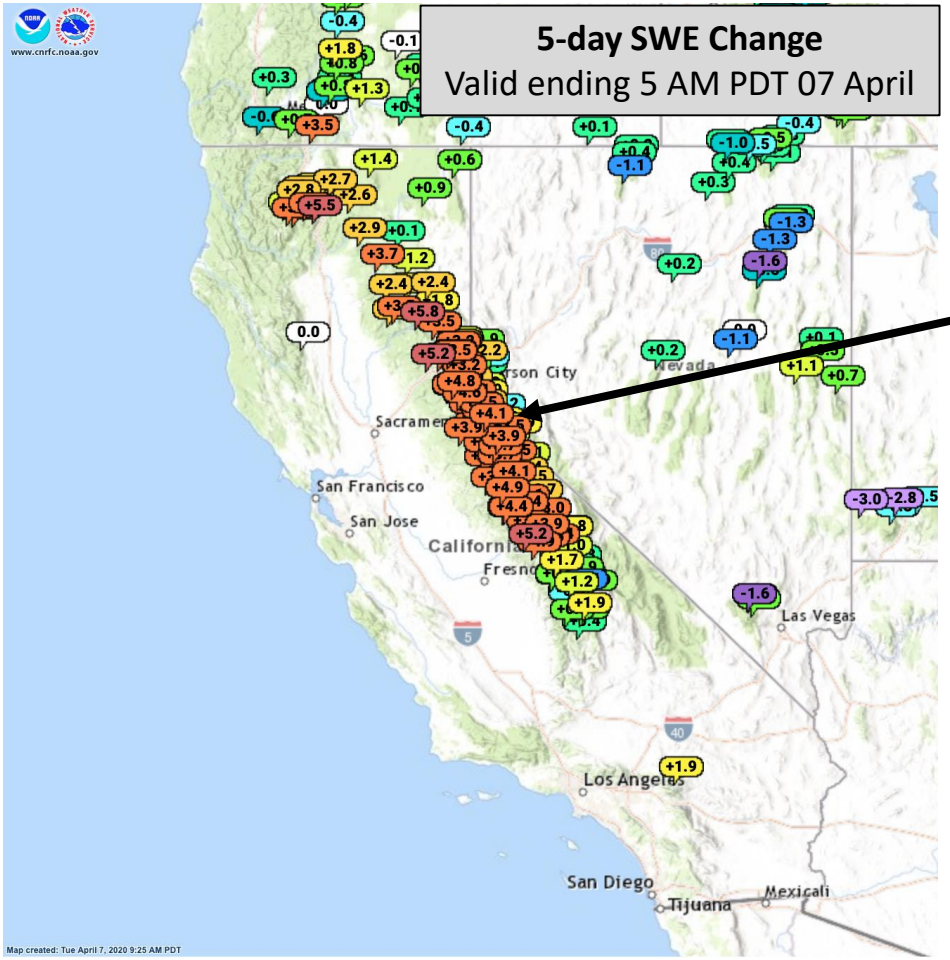
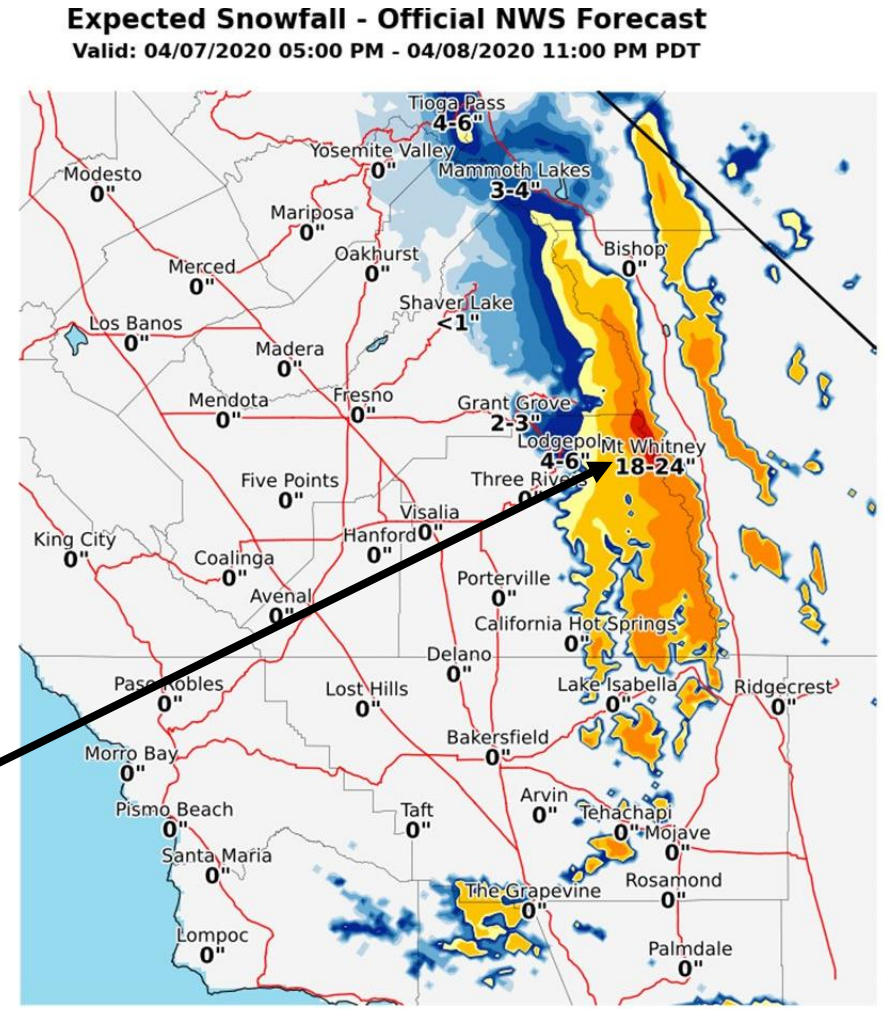


- The large snowfall accumulations associated with this AR resulted in high 5-day snow water equivalent changes across the Sierra
- Numerous locations received a SWE increase of >4 inches

- As this system continues to impact portions of Central and Southern CA, an additional 18–24 inches of snow could fall over the highest elevations of the Southern Sierra



Forecast image from @NWSHanford

SWE change map from cnrfc.noaa.gov